WATER MANAGEMENT

This set of competencies helps industry to investigate and solve problems related to sustainable water management.

COMPETENCIES

- Research on the sustainable and safe use of water found in nature, in various forms and states
- Identification of risk factors endangering the quality and quantity of water, elimination of emergency situations, minimisation of the harmful effects of human interventions
- Treatment and purification of industrial and municipal wastewater

INSTRUMENTS

- Quantitative and qualitative monitoring and evaluation of groundwater resources
- Design and expert activities related to water base protection
- Investigation of water supply possibilities for drinking water, irrigation water, mineral water, thermal water and medicinal water
- Hydrodynamic, material transport and heat transport modelling
- Field and laboratory measurements for water management and water research
- Water management surveys, water balance calculations of surface and groundwater resources
- Examination and planning of dewatering and waterway replacement solutions
- Water chemistry and soil mechanics field and laboratory tests
- Design of industrial and municipal wastewater systems
- Examination and further development of industrial and municipal wastewater treatment, water treatment processes and equipment, as well as technologies
- Fact-finding, complex investigations, human risk assessment and monitoring related to the remediation of contaminated sites
- Design of remediation systems
- Utilisation of the measurement and field capacities of the integrated soil mechanics and water chemistry laboratory

TOOLS

- Ta Measurement of soil physical, classification and leakage characteristics, measurement of hydrochemical parameters
- (T, pH, Eh, EC, DO, TDS, COD)
- Agilent 4210 MP-AES
- UniCam 929 AAS
- Field DATAQUA drivers, pH, conductivity
- Temperature sensors, infiltrometers
- Unsat Suit
- HACH LANGE field spectrophotometer, manual and trailed drilling and sampling equipment
- GMS modelling environment
- Processing Modflow
- PHREEQC
- RIsk5
- Crystal Ball
- RBCA Tool Kit

REFERENCES

- Clean Drinking Water Project (Multidisciplinary Assessment of Safe Supply from Source to Consumers, 2018-1.2.1-NKP-2018-00011); https://tisztaivovizprogram.hu/
- INNOVIZZ project (Innovative solutions for sustainable use of groundwater resources, GINOP-2.3.2-15-2016-00031)
- Fact-finding of the pollution of the water bases around Abasár, as well as the review and updating of the Gyöngyös-Atkári drinking water base safety plan - hydrodynamic transport modelling
- TSH Kft.: Carrying out quarterly monitoring activities for groundwater monitoring wells
- Tatai Environmental Protection Ltd.: Complex geotechnical-hydrogeological study of the surroundings of the Almásfüzitő red mud reservoirs in order to assess the condition of the underground environment
- DRV Zrt.: Development of a product range of bio-raw materials taking into account the local technological line - usability tests by optimizing operating conditions, GINOP-2.2.1-15-2017-00069